

1 **1. (previously presented)** Apparatus in a database management system for performing a job
2 which transfers a set of database objects into or out of the database management system, the
3 apparatus comprising:
4 a transfer mechanism that transfers database objects; and
5 a queryable control database object that represents the job and specifies the set of
6 objects,
7 the transfer mechanism operating under control of the control database object to transfer the
8 objects in the set.

1 **2. (canceled)**

1 **3. (previously presented)** The apparatus set forth in claim 1 wherein:
2 the control database object further specifies an order in which the transfer mechanism
3 transfers the objects in the set.

1 **4. (previously presented)** The apparatus set forth in claim 3 wherein:
2 the order orders the objects in the set by size.

1 **5. (previously presented)** The apparatus set forth in claim 1 wherein:
2 the control database object includes a filter that further specifies the set of objects.

1 **6. (original)** The apparatus set forth in claim 1 wherein:
2 the transfer mechanism further performs an operation on one or more objects belonging
3 to the set; and
4 the control database object includes a specification of the operation.

1 **7. (original)** The apparatus set forth in claim 6 wherein:
2 the operation is an operation that transforms the object.

1 **8. (original)** The apparatus set forth in claim 7 wherein:
2 the operation is an operation that remaps a name in the object to a different name.

Please cancel the second instances of claims 7 and 8.

1 **9. (original)** The apparatus set forth in claim 1 wherein:
2 the control database object includes a specification of a status of the job; and
3 the transfer mechanism updates the status in the specification during the transfer.

1 **10. (original)** The apparatus set forth in claim 9 wherein:
2 the control database object is queryable to obtain a current status of the job from the
3 specification of the status.

1 **11. (original)** The apparatus set forth in claim 9 wherein:
2 the transfer mechanism employs the specification of the status of the job to restart the
3 job after the job has been stopped.

1 **12. (original)** The apparatus set forth in claim 1 wherein:
2 the control database object specifies a remote database management system as a source
3 of the set of objects; and
4 the transfer mechanism fetches the set of objects from the remote database management
5 system.

1 **13. (original)** The apparatus set forth in claim 12 wherein:
2 the control database object specifies the database management system as a destination
3 of the set of database objects; and
4 the transfer mechanism further fetches the set of database objects into the database
5 management system.

1 **14. (original)** The apparatus set forth in claim 1 wherein:
2 the control database object specifies a set of files in the database system as a source or
3 destination of the set of database objects.

1 **15. (original)** The apparatus set forth in claim 14 wherein:

2 when the set of files is the source of the set of database objects, the set of files is the
3 result of a job and includes a copy of the control database object for the job.

1 **16. (previously presented)** The apparatus set forth in claim 14 wherein:

2 the control database object is a table and includes rows representing objects belonging
3 to the set of database objects.

1 **17. (original)** The apparatus set forth in claim 16 wherein:

2 each row representing an object belonging to the set includes a specification of an order
3 in which the object represented by the row was transferred to the set of files relative to other
4 objects belonging to the set.

1 **18. (original)** The apparatus set forth in claim 16 wherein:

2 when the set of files is the destination of the set of database objects, there is a row
3 representing each object that has been transferred to the set of files.

1 **19. (original)** The apparatus set forth in claim 16 wherein:

2 when the set of files is the source of the set of database objects, there is a row
3 representing each object which is to be transferred into the database management system.

1 **20. (original)** The apparatus set forth in claim 19 wherein:

2 the row representing a particular object includes a field whose value specifies an order in
3 which the object is to be transferred relative to the other objects.

1 **21. (original)** The apparatus set forth in claim 16 wherein:

2 the set of files is the result of a job and includes a copy of the control database object
3 for the job, the copy having a row for each database object contained in the set of files; and

4 when the transfer mechanism is transferring the objects belonging to the set of objects
5 from the set of files into the database management system, the control database object contains
6 a copy of at least the rows representing the objects from the copy of the control database object
7 in the file set.

- 1 **22. (original)** The apparatus set forth in claim 16 wherein:
2 the row in the copied rows representing a particular object includes a field whose value
3 specifies an order in which the object is to be transferred relative to the other objects represented
4 by the copied rows.
- 1 **23. (original)** The apparatus set forth in claim 14 wherein:
2 the control database object further specifies a template whereby the transfer mechanism
3 may add a file to the set of files when required for transferring the objects.
- 1 **24. (original)** The apparatus set forth in claim 1 wherein:
2 the control database object specifies a remote database management system as a source
3 of the set of objects and a set of files in the database system as a destination therefor; and
4 the transfer mechanism transfers the set of objects from the remote database
5 management system to the set of files.
- 1 **25. (original)** The apparatus set forth in claim 1 wherein:
2 the control database object specifies a set of files in the database system as a source of
3 the set of objects; and
4 the transfer mechanism transfers the set of objects from the set of files into the database
5 management system
- 1 **26. (original)** The apparatus set forth in claim 1 wherein:
2 the transfer mechanism further provides an interface whereby an entity that uses the
3 transfer mechanism may interact with the job.
- 1 **27. (previously presented)** The apparatus set forth in claim 26 wherein:
2 the interface permits the entity to attach to and detach from the job for as long as the
3 job's control database object exists, transfer of the objects by the transfer mechanism being
4 unaffected by detachment of the entity from the job.
- 1 **28. (original)** The apparatus set forth in claim 26 wherein:

2 the entity may use the interface via a network connection to the database management
3 system.

1 **29. (original)** The apparatus set forth in claim 26 wherein:
2 the interface includes a defining interface whereby the entity may define a portion of
3 the job's control database object.

1 **30. (original)** The apparatus set forth in claim 26 wherein:
2 the interface includes an executing interface whereby the entity may interact with the
3 transfer mechanism from the time the transfer mechanism begins transferring the objects in the
4 set until the job's control database object ceases to exist.

1 **31. (original)** The apparatus set forth in claim 30 wherein:
2 the entity may use the executing interface to obtain a current status of the job from a
3 specification of the status of the job in the control database object.

1 **32. (original)** The apparatus set forth in claim 27 wherein:
2 the entity may use the executing interface to stop performance of the job by the transfer
3 mechanism or the transfer mechanism may stop performance of the job in response to an error.

1 **33. (original)** The apparatus set forth in claim 32 wherein:
2 the entity may use the executing interface to restart a stopped job, the transfer
3 mechanism using a specification of the status of the job in the control database object to restart
4 the job.

1 **34. (original)** The apparatus set forth in claim 30 wherein:
2 the entity may use the executing interface to affect allocation of resources by the
3 transfer mechanism to the job.

1 **35. (original)** The apparatus set forth in claim 34 wherein:
2 the transfer mechanism operates on objects in the set in parallel; and

3 the entity uses the executing interface to specify a maximum degree of parallelism for
4 the job.

1 **36. (previously presented)** A set of files for transferring a set of database objects into a
2 database management system,
3 the set of files comprising:
4 at least one file containing the objects belonging to the set thereof; and
5 a queryable control database object contained in a file belonging to the set of files that
6 specifies for each object belonging to the set the location of the object in the set of files and an
7 order in which the database management system transfers the object during the transfer.

1 **37. (original)** The set of files set forth in claim 36 wherein:
2 the file further includes metadata that defines a type of database objects and one or
3 more database objects that belong to the type defined by the metadata; and
4 the order determines that the metadata is processed before the database objects that
5 belong to the type defined by the metadata.

1 **38. (original)** The set of files set forth in claim 36 further comprising:
2 a header in each file of the set, the header including
3 an indication the control object is contained in the file and if so, the location of
4 the control object in the file and
5 an identifier that identifies the file within the set; and
6 the control object uses the identifier in specifying the location of the object in the set of
7 files.

1 **39. (canceled)**

1 **40. (canceled)**

1 **41. (canceled)**

1 **42. (canceled)**

1 **43. (previously presented)** A method of performing a job that transfers a set of database
2 objects into or out of a database management system that includes a transfer mechanism that
3 transfers the database objects,
4 the method comprising the steps of:

5 defining a queryable control database object that represents the job and specifies the set
6 of objects; and

7 executing the job by causing the transfer mechanism to transfer the set of database
8 objects under control of the control data base object.

1 **44. (original)** The method of performing a job set forth in claim 43 further comprising
2 the step performed in either the defining step or the executing step of:

3 attaching to the job, attachment permitting at least reading and/or modification of
4 the job's control database object.

1 **45. (original)** The method of performing a job set forth in claim 44 further comprising
2 the step performed after the step of attaching to the job of:

3 reading the job's control database object to get the job's current status.

1 **46. (original)** The method of performing a job set forth in claim 44 wherein
2 the transfer mechanism transfers the data objects in parallel and
3 the method further comprises the step performed after the step of attaching to the job of:
4 specifying a degree of parallelism with which the objects may be transferred.

1 **47. (original)** The method of performing a job set forth in claim 44 wherein the method
2 further comprises the step performed after the step of attaching to the job of:
3 starting the step of executing the job.

1 **48. (original)** The method of performing a job set forth in claim 44 wherein the method
2 further comprises the step performed after attaching to the job of:

3 stopping the step of executing the job.

1 **49. (original)** The method of performing a job set forth in claim 48 wherein the step of
2 stopping the step of executing the job further comprises the step of:

3 saving job state in the control database object such that the step of executing the
4 job may be restarted from the job state.

1 **50. (original)** The method of performing a job set forth in claim 43 wherein:

2 the step of defining the job includes the step of creating the job's control database
3 object.

1 **51. (original)** The method of performing a job set forth in claim 43 wherein:

2 the step of defining the job includes the step of specifying a source and/or
3 destination for the set of database objects in the job's control database object.

1 **52. (canceled)**

1 **53. (previously presented)** The method of performing a job set forth in claim 43
2 wherein:

3 the step of defining the job includes the step of specifying a filter in the job's
4 control database object, the filter defining a subset of the specified set of database objects
5 as the set of objects to be transferred in the job.

1 **54. (original)** The method of performing a job set forth in claim 43 wherein:

2 the step of defining the job includes the step of specifying an operation in the job's
3 control database object that is to be performed on one or more objects in the set.

1 **55. (original)** The method of performing a job set forth in claim 43 wherein:

2 the step of defining the job includes the step of defining a parameter for the job in
3 the job's control database object for the job.

1 **56. (previously presented)** The method of performing a job set forth in claim 43
2 wherein

3 the step of executing the job includes the step performed when the step of
4 executing the job must be stopped of:

5 saving job state in the control database object such that the stopped executing step
6 may be restarted from the job state.

1 **57. (original)** The method of performing a job set forth in claim 56 wherein the step of
2 executing the job includes the step performed when the step of executing the job has been
3 stopped of:

4 using the job state to restart the stopped executing step.

1 **58. (previously presented)** The apparatus set forth in claim 1 wherein:

2 the control database object includes a specification of one or more parameters for
3 the job,

4 the transfer mechanism transferring the objects in the set as specified by the parameter.

1 **59. (currently amended)** The apparatus set forth in claim 7-58 wherein:

2 the parameter is an estimate only parameter,
3 the transfer mechanism responding thereto by providing an estimate of the space required
4 for the objects in the set without transferring the objects.

1 **60. (previously presented)** The apparatus set forth in claim 1 wherein:

2 the control database object is a table and includes rows representing the objects
3 belonging to the set of database objects.

1 **61. (previously presented)** The apparatus set forth in claim 60 wherein:

2 the row representing a particular object includes a field whose value specifies an
3 order in which the object is to be transferred relative to the other objects.

1 **62. (previously presented)** A data storage device characterized in that:

2 the data storage device contains code which, when executed by a processor,
3 implements the apparatus set forth in claim 1.

1 **63. (previously presented)** A data storage device characterized in that:

2 the data storage device contains the set of files set forth in claim 36.

1 **64. (canceled)**

1 **65. (previously presented)** A data storage device characterized in that:

2 the data storage device contains code which, when executed by a processor,
3 implements the method set forth in claim 43.

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